

**CLAIMS**

- A
1. A method for a subscriber station registration in a broadcast communication system, comprising:
    - receiving a HSBS channel modulating a first frequency; and
    - monitoring a timer status for the HSBS channel, and if the timer status is expired:
      - performing a broadcast service registration with a sector transmitting the HSBS channel;
      - setting status of the timer for the HSBS channel to enabled; and
      - starting a timer for the HSBS channel.
  2. The method as claimed in claim 1 wherein performing a broadcast service registration with a sector transmitting the HSBS channel further comprises:
    - transmitting a paging identifier to the sector.
  3. The method as claimed in claim 2 wherein transmitting a paging identifier to the sector further comprises:
    - transmitting an identifier of the HSBS channel monitored by the subscriber station to the sector.
  4. The method as claimed in claim 2 wherein transmitting a paging identifier to the sector further comprises:
    - transmitting an identifier of the frequency monitored by the subscriber station to the sector.
  5. The method as claimed in claim 1, further comprising setting timer status to expired for all HSBS channels upon power-up of the subscriber station.
  6. A method for a subscriber station registration in a broadcast communication system, comprising:

receiving a broadcast service registration from the subscriber station at a  
 4 sector;

adding a paging identifier to the subscribers' station paging set; and  
 6 starting a timer for the paging identifier.

7. The method as claimed in claim 6, further comprising:

2 monitoring a timer status of all paging identifiers for all subscriber  
 stations' paging sets, and if a timer status of a paging identifier for a subscriber  
 4 station is expired, then removing the paging identifier from the subscriber's  
 station paging set.

8. The method as claimed in claim 6, further comprising adding an identifier  
 2 for the frequency that the subscriber station monitors upon power-up to the  
 subscribers' station paging set

9. The method as claimed in claim 6 wherein adding a paging identifier to  
 2 the subscribers' station paging set comprises:

adding an identifier of the HSBS channel monitored by the subscriber  
 4 station to the subscribers' station paging set

10. The method as claimed in claim 6 wherein adding an identifier to the  
 2 subscribers' station paging set comprises:

adding an identifier of a frequency modulated by the HSBS channel  
 4 monitored by the subscriber station to the subscribers' station paging set

11. A method for paging a subscriber station in a broadcast communication  
 2 system, comprising:

determining a status of the subscriber station's paging set;

4 determining paging channels on which to page the subscriber station in  
 accordance with the determined status of the subscriber station's paging set;

6 and

paging the subscriber station on all determined paging channels.

A 12. The method as claimed in claim 11 wherein said determining a status of  
2 the subscriber station's paging set comprises:

receiving at a subscriber station a HSBS channel modulating a first  
4 frequency;

monitoring at a subscriber station a timer status for the HSBS channel,  
6 and if the timer status is expired, then:

performing a broadcast service registration with a sector  
8 transmitting the HSBS channel;

setting status of the timer for the HSBS channel to enabled; and

10 starting a first timer for the HSBS channel;

receiving at the sector the broadcast service registration from the  
12 subscriber station;

adding at the sector a paging identifier to the subscribers' station paging  
14 set;

starting at the sector a second timer for the paging identifier;

16 monitoring at the sector a timer status of all paging identifiers for all  
subscriber stations' paging sets, and if a timer status of a paging identifier for a  
18 subscriber station is expired, then removing the paging identifier from the  
subscriber's station paging set.

13. The method as claimed in claim 11 wherein said determining a paging  
2 channel on which to page the subscriber station in accordance with the  
determined status of the subscriber station's paging set comprises:

4 determining frequencies on which to page the subscriber station in  
accordance with paging identifiers contained in the subscriber station paging  
6 set;

determining paging channels on which to page the subscriber station for  
8 each of the frequencies; and

paging the subscriber station on all determined paging channels.

14. The method as claimed in claim 11 wherein said determining a status of  
2 the subscriber station's paging set comprises:

transmitting from the subscriber station a first notification of a desire to  
4 receive a broadcast channel;

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transmitting from the subscriber station a second notification a desire to  
 6 cease broadcast channel reception;  
 adding a paging identifier to the subscriber station paging set upon  
 8 receiving the first notification; and  
 removing the paging identifier from the subscriber station paging set  
 10 upon receiving the second notification.

15. The method as claimed in claim 14, further comprising:

2 transmitting from the sector permission to receive the broadcast channel  
 in response the first notification; and  
 4 receiving at the subscriber station the broadcast channel after receiving  
 the permission

16. The method as claimed in claim 11 wherein said determining a status of  
 2 the subscriber station's paging set comprises:

transmitting from the subscriber station a notification of a desire to  
 4 receive a broadcast channel modulating a second frequency different from the  
 first frequency monitored by the subscriber station;

6 removing an identifier of the first frequency from the subscriber station  
 paging set upon receiving the notification; and

8 adding an identifier of the first frequency to the subscriber station paging  
 set upon receiving the first notification.

17. The method as claimed in claim 16, further comprising:

2 transmitting from the sector permission to receive the broadcast channel  
 in response the first notification; and

4 receiving at the subscriber station the broadcast channel after receiving  
 the permission.

18. A method for paging a subscriber station in a broadcast communication  
 2 system, comprising:

modulating all frequencies of a sector with a broadcast channel;

4 determining paging channels on which to page the subscriber station for  
 each of the frequencies; and

6        ~~9~~        paging the subscriber station on all determined paging channels.

19.     A method for paging a subscriber station in a broadcast communication  
2     system, comprising:

4        determining a frequency that the subscriber station monitors upon power-  
up;

6        determining all frequencies modulated by broadcast channels;

6        determining paging channels on which to page the subscriber station for  
each of the frequencies; and

8        paging the subscriber station on all determined paging channels.

20.     A method for paging a subscriber station in a broadcast communication  
2     system, comprising:

4        determining a frequency that the subscriber station monitors upon power-  
up, and if at least one broadcast channel is transmitted, then:

6        determining all frequencies modulated by the at least one broadcast  
channels to which the subscriber station is subscribed;

8        determining paging channels on which to page the subscriber station for  
each of the frequencies; and

8        paging the subscriber station on all determined paging channels.

21.     The method as claimed in claim 20, further comprising:

2        determining paging channel on which to page the subscriber station for a  
frequency that the subscriber station monitors upon power-up; and

4        paging the subscriber station on the determined paging channel if no  
broadcast channel is transmitted.

22.     A method for assigning frequencies to a subscriber station upon power-  
2     up in a broadcast communication system, comprising:

4        assigning a subscriber station to any of the frequencies transmitted by a  
sector in accordance with a hashing function if no broadcast channel is  
transmitted.

23.     The method as claimed in claim 22 further comprising:

2 assigning a subscriber station subscribed to a broadcast channel to the  
4 frequencies transmitted by a sector modulated by the broadcast channel in  
accordance with a hashing function if broadcast channel is transmitted.

24. A method for providing broadcast parameters in a broadcast  
2 communication system, comprising:

4 receiving at each subscriber station in an idle state a first channel  
containing a message;

6 decoding at each subscriber station a header of the message; and

decoding the remainder of the message only at the subscriber stations  
interested in a broadcast service.

25. The method as claimed in claim 24 wherein said receiving at each  
2 subscriber station in an idle state a first channel containing a message  
comprises:

4 receiving at each subscriber station in an idle state a channel provided by  
a communication system for overhead messages.

26. The method as claimed in claim 24 further comprising:

2 receiving at each subscriber station interested in a broadcast service in a  
dedicated mode state a separate channel containing a message; and

4 decoding at the subscriber station the message.

27. The method as claimed in claim 26 wherein said receiving a first channel  
2 containing a message at each subscriber station in an idle state comprises:

receiving at each subscriber station in an idle state a dedicated channel.

28. A method for providing broadcast parameters in a broadcast  
2 communication system, comprising:

4 transmitting from a sector a message in a first channel;

receiving at each subscriber station in an idle state the first channel;

6 decoding at each subscriber station a header of the message;

decoding the remainder of the message only at the subscriber stations  
interested in a broadcast service; and

8 failing to receive the first channel at each subscriber station in a  
dedicated mode.

29. The method as claimed in claim 28, wherein said transmitting from a  
2 sector a message in a first channel comprises:

4 transmitting from the sector a channel provided by a communication  
system for overhead messages.

30. The method as claimed in claim 29, further comprising:

2 transmitting from the sector a separate channel containing the message  
to each subscriber station interested in a broadcast service in a dedicated  
4 mode; and

6 decoding the message at each subscriber station interested in a  
broadcast service in a dedicated mode.

31. The method as claimed in claim 30, wherein said transmitting from the  
2 sector a separate channel containing the message to each subscriber station  
interested in a broadcast service in a dedicated mode comprises:

4 transmitting from the sector a dedicated channel.